

## **Fire Safety Analysis FAQs** (Prepared 8/04)

**Q1: Why do I need to do a fire safety analysis (FSA) for my existing plant?**

A: The 2001 edition of NFPA 58, the *LP-GAS Code*, was changed to require a written FSA for facilities with more than 4000 gallons water capacity (wc) of aggregate storage. The FSA is required within three years of adoption of that edition of the Code by the Authority Having Jurisdiction (AHJ).

**Q2: What is the purpose of a FSA?**

A: The purpose of the FSA is to provide local emergency response agencies with information on the various safety features built into a propane installation that are used to control the product and the operations that may take place at the facility. Also, the FSA evaluates the hazard to the neighborhood surrounding the facility and the capabilities of local emergency response agencies.

**Q3: How do I determine whether a facility or installation requires a Fire Safety Analysis?**

A: A facility must have a written FSA prepared if it has storage containers that are greater than 4,000 gallons water capacity; or, if the aggregate amount of storage containers at the facility exceeds 4,000 gallons water capacity and those containers are either connected to one another through a manifolded filling or service connection.

**Q4: Who in my organization can perform the FSA?**

A: There are no special credentials required to fill out the FSA forms. However, the person doing so should be familiar with operations taking place at the facility and the product control hardware and how it functions.

**Q5: What if no one in my organization can perform the FSA?**

A: In addition to providing direction for company employees performing FSAs, the manual can also be used by a consultant, professional engineer or anyone else a company wishes to designate to prepare this document.

**Q6: What elements must be included in the analysis?**

A: The manual has been developed to correspond to the general requirements of Paragraph A.3.10.2.2 of NFPA 58 (product control measures, local conditions of hazard within the container site, exposure to/from other properties, population density and congestion, probable effectiveness of plant fire brigades or local fire departments, consideration for adequate application of water for effective control of leakage, fire or other exposures, and (if necessary) a designated time period for review with local emergency response agencies).

All of the information contained in the FSA forms must be reviewed and filled out if it is applicable to the facility. Additional information (drawings or details on the operation of equipment) can be submitted at the discretion of the submitter or if required by the authority having jurisdiction (AHJ).

**Q7: Are there installations that are not covered by the FSA manual?**

A: The manual does not address the following:

1. Marine terminals, refrigerated LP-gas storage and the transportation of LP-gas either by rail tank cars or by cargo tank trucks.
2. Storage of LP-gas in salt domes and caverns.
3. Installations of ASME LP-gas containers on roofs of buildings. This type of installation is excluded from the scope of this manual (even though a FSA is required for such operations according to section 3.10.2.2 of the 2001 edition of the Code) primarily because of the rarity of such installations in the United States.
4. Cylinder filling operations at a dispensing facility, unless the storage threshold for LP-gas has been exceeded, requiring an FSA to be prepared.
5. The use of facility employees performing as a “fire brigade.”

**Q8: How do I present the analysis to the AHJ?**

A: The owner or representative of the facility can schedule an appointment with the local emergency response agency or AHJ and present the FSA at that time. Be familiar with the elements of the FSA and be prepared to answer any questions that may arise.

**Q9: My facility was built long before the town expanded to our property boundaries. What do I need to consider in this situation as I prepare a FSA?**

A: Existing facilities are required by the 2001 edition of NFPA 58 to have a written fire safety analysis performed within 3 years of the effective date of the Code. The FSA manual and forms allow and encourage users to perform the analysis using the edition of the Code that was in use at the time the facility was constructed. (The FSA Manual automatically takes this into account by indicating when certain product control equipment became required by the Code.) This fact should be emphasized to the AHJ and it must be made clear that by performing the FSA, a facility owner is not required to “update” the facility by installing new equipment, except in the rare cases where retrofitting of equipment was required.

**Q10: What assurance do I have that the AHJ will accept the results of this FSA document? Can the AHJ require a professional engineer to perform the analysis?**

A: Although the AHJ is not required to accept the results of the FSA, the goal of developing this tool was to provide a credible document to fire and code officials. Hence, NFPA played a prominent role in its development; in addition, the effort was enhanced by the participation of fire protection engineers currently serving on the Technical Committee on Liquefied Petroleum Gases. Should any question arise as to the credibility of the FSA, both NPGA and NFPA are available to clarify the development and rationale of the manual.

**Q11: Does submitting a fire safety analysis mean that a sprinkler or other type of water protection will have to be added to an existing facility?**

A: The FSA does not require additional equipment or systems to be added to existing facilities. Rather, the FSA reflects NFPA 58 in that the first consideration shall be an evaluation of total product control system, including emergency shutoff and internal valves equipped for remote closure and automatic shutoff using thermal (fire) actuation pull-away protection. Although fire suppression is an optional means of protection, the most effective means is to prevent the uncontrolled release of fuel, and the requirements in NFPA 58 for product control equipment and employee training effectively accomplish this goal.

**Q12: What are my options if the AHJ will not accept a proposed installation without water protection for the facility?**

A: The background and training of some AHJs will make applying water or other suppression agents a priority to a propane facility. As the facility operator, you should be knowledgeable on the important aspects of product control and training, as reflected in the requirements of NFPA 58. Make an effort to contact the AHJ and utilize the information in the FSA manual to educate the AHJ on the overall importance of product control and the realistic product release scenarios that are portrayed in the manual. Contact NPGA if additional assistance is needed.

**Q13: How do changes in the new (2004) edition of NFPA 58 affect the FSA requirements?**

A: The procedure is referred to as an “Incident Prevention Review” in the new edition of NFPA 58; the essential elements of the process, however, have not changed. The code also does not require an incident prevention review where a written fire safety analysis exists.